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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,376	07/24/2003	Robert S. Greeff	57226-A-RE	2506

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EXAMINER

HO, THOMAS Y

ART UNIT	PAPER NUMBER
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3677

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/626,376

Applicant(s)

GREEFF, ROBERT S.

Examiner

Thomas Y Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-15 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 4-5, 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07242003
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Status of Claims

Claims 1-20 are pending. No claims are withdrawn or cancelled.

Information Disclosure Statement

The information disclosure statement filed 7/24/03 is objected to because the reference US38314 to Bruhl does not exist, and so has not been considered. US Patent Number 38314 is to Marcher and is directed to molding picture frames.

Drawings

The drawings were received on 7/24/03. These drawings are acceptable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 9-10, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Mauer, Edward. The Octo-Square Brilliant. Lapidary Journal, March 1974, p.1790 (referred to as Octo-Square).

As to claim 1, Octo-Square discloses, a cut cornered mixed cut gemstone, comprising a girdle, a crown above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides and four crown corners, each crown side and corner having a length along the girdle, said corner length being substantially less than

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said side length, said crown also comprising at least two steps, including a first step (the first level of the crown starting from the girdle) from the girdle to a crown break (the crown break is the first line in from the girdle in the crown view), and a second step (the second step includes the area covered between the crown break and the table) from the crown break to a table break (the table break is the line around the octagonal table), said crown break defined by lines parallel with said girdle, said crown also having a substantially flat table, said table having one facet having four sides and four corners defined by lines parallel with said girdle, said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides (each of the four largest facets in the pavilion view together define pairs of opposing pavilion sides) and four pavilion corners defined by eight rib lines extending from the girdle to the culet, wherein each rib line extends in a substantially straight line when viewed from the bottom of the pavilion.

As to claim 2, Octo-Square discloses, wherein the rib lines extend substantially continuously from the girdle to the culet.

As to claim 3, Octo-Square discloses, wherein the pavilion sides and corners each comprise a plurality of facets. The pavilion sides and corners are defined by 16 pavilion facets. Any two adjacent facets of the 16 facets can be split into pairs (a plurality of facets). Four of these pairs define the four pavilion sides, and the other four pairs define the four corners. Therefore, each pavilion side and corner comprises a plurality of facets (two to be exact).

As to claim 9, Octo-Square discloses, a cut cornered mixed cut gemstone, comprising a girdle defined by girdle lines, a crown above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides and four

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crown corners, wherein each crown side intersects with its adjacent corners at about the same angle of intersection, said crown also comprising at least two steps, including a first step from the girdle to a crown break, and a second step from the crown break to a table break, said crown also having a substantially flat table, said table having one facet having four sides and four corners defined by lines parallel to said girdle lines, said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides and four pavilion corners defined by eight distinct rib lines extending from the girdle entirely to the culet, said pavilion sides and corners extending entirely to the culet.

As to claim 10, Octo-Square discloses, a cut cornered mixed cut gemstone, comprising a girdle defined by girdle lines, a crown above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides, four crown corners, said crown also comprising at least two steps, including a first step from the girdle to a crown break, and a second step from the crown break to a table break, each crown corner having a facet defined by a facet line common with a girdle line, said crown also having a substantially flat table, said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides and four pavilion corners defined by eight rib lines extending from the girdle to the culet, wherein facet intersection lines in the pavilion define where two facets have a common side, said pavilion being devoid of any facet intersection lines parallel with the girdle.

As to claim 15, Octo-Square discloses, a cut cornered mixed cut gemstone, comprising a girdle, a crown above said girdle and a pavilion below said girdle, said crown comprising a width

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and length formed by two pairs of opposing crown sides and four crown corners, each crown side and corner having a length along the girdle, said corner length being substantially less than said side length, said crown also comprising at least two steps, including a first step from the girdle to a crown break, and a second step from the crown break to a table break, said crown also having a substantially flat table, said table having one facet having four sides and four corners defined by lines parallel with said girdle, said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides and four pavilion corners defined by eight rib lines extending from the girdle to the culet, said pavilion sides and corners extending entirely to the culet.

Claims 6-7, 12-13, 17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Wyskoff, Gerald. The Techniques of Master Faceting. Vol.1, 1985, p.218 (referred to as Crossed Bottom Square).

As to claim 6, Crossed Bottom Square discloses, a cut cornered mixed cut gemstone, comprising a girdle, a crown above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides and a substantially flat table, said table having sides substantially parallel with the girdle, said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides and four corners defined by rib lines extending from the girdle to the cutlet, said rib lines extending in a straight line from the girdle to the cutlet when viewed from the bottom of the pavilion, wherein each pavilion side

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comprises at least three facets each having a facet corner intersecting at a common facet intersection point (see the crown and pavilion views of the Crossed Bottom Square).

As to claim 7, Crossed Bottom Square discloses, a cut cornered mixed cut gemstone comprising a girdle, a crown above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides and a substantially flat table, said table having sides substantially parallel with the girdle, said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides defined by rib lines extending from the girdle to the culet, said rib lines extending in a straight line from the girdle to the culet when viewed from the bottom of the pavilion, wherein each pavilion side comprises a plurality of facets each having a facet corner intersecting at a common facet intersection point, wherein the plurality of facets on each pavilion side is at least four.

As to claim 12, Crossed Bottom Square discloses, a cut cornered mixed cut gemstone, comprising a girdle, a crown above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides and a substantially flat table, said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides defined by distinct rib lines extending from the girdle to the culet, wherein each rib line extends in a substantially straight line when viewed from the bottom of the pavilion, wherein each pavilion side comprises a plurality of facets each and every one of said plurality having a facet corner intersecting at a common facet intersection point, wherein one of the facets in the pavilion

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side is a girdle star facet (largest triangular facets extending from the girdle in the crown view) extending downwardly from the girdle, which girdle star facet has only three sides.

As to claim 13, Crossed Bottom Square discloses, a cut cornered mixed cut gemstone, comprising a girdle, a crown above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides and a substantially flat table, said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides defined by distinct rib lines extending from the girdle to the culet, wherein each pavilion side comprises a plurality of facets each having a facet corner intersecting at a common facet intersection point and each pavilion facet having no more than four sides, and wherein each pavilion side has a facet with a facet corner at the culet.

As to claim 17, Crossed Bottom Square discloses, wherein each pavilion side has four facets each having a facet corner intersecting at a common intersection point.

As to claim 20, Crossed Bottom Square discloses, wherein the facet in each pavilion side, which has a facet corner at the culet, has four sides (see B in the pavilion view).

Claims 7-8, 11, 14, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Graham, Jeff R. Gram 1 Faceting Designs. Montana Burst, 1995 (referred to as Montana Burst).

As to claim 7, Montana Burst discloses, a cut cornered mixed cut gemstone comprising a girdle "P2(G)", a crown "C1, C2, and C3" above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides and a substantially flat table "T", said table having sides substantially parallel with the girdle, said

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pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides defined by rib lines extending from the girdle to the culet, said rib lines extending in a straight line from the girdle to the culet when viewed from the bottom of the pavilion, wherein each pavilion side comprises a plurality of facets "P1, P3, and P4) each having a facet corner intersecting at a common facet intersection point, wherein the plurality of facets on each pavilion side is at least four.

As to claim 8, Montana Burst discloses, a cut cornered mixed cut gemstone, comprising a girdle "P2(G)", a crown "C1, C2, and C3" above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides and a substantially flat table "T", said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides defined by rib lines extending from the girdle to the culet and two pairs of opposing pavilion corners (Montana Burst shows eight sets of pavilion sections, each set having facets P1, two of P3, and a P4; four of these sets are pavilion sides, and the other four are pavilion corners), wherein each pavilion side and corner comprises a plurality of facets, and wherein each pavilion side and corner has only two facets along each rib line.

As to claim 11, Montana Burst discloses, a cut cornered mixed cut gemstone, comprising a girdle, a crown above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides and a substantially flat table, said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides and four corners

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defined by rib lines extending from the girdle to the culet, wherein each pavilion side and corner comprises a plurality of facets each having a facet corner intersecting at a common facet intersection point inwardly of said rib lines, and wherein each pavilion side and corner has a facet with a facet corner at the culet.

As to claim 14, Montana Burst discloses, a cut cornered mixed cut gemstone, comprising a girdle, a crown above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides and a substantially flat table, said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides and four pavilion corners defined by eight corners rib lines extending in a straight line from the girdle to the culet when viewed from the bottom of the pavilion, wherein each pavilion side and corner comprises a plurality of facets, and wherein each pavilion side and corner has only two facets along each rib line, and one facet along the girdle.

As to claim 18, Montana Burst discloses, wherein the number of facets on each pavilion corner is at least four.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wyskoff, Gerald. The Techniques of Master Faceting. Vol.1, 1985, p.218 (referred to as Crossed Bottom Square), in view of case law.

As to claim 19, Crossed Bottom Square discloses, wherein the common facet intersection point is a fraction of the way from the culet to the girdle. The difference between the claim and Crossed Bottom Square is the claim recites $\frac{3}{4}$ as the fraction. It would have been obvious to one of ordinary skill in the art, having the disclosure of Crossed Bottom Square before him at the time the invention was made, to modify the fraction of Crossed Bottom Square to be $\frac{3}{4}$, to obtain a different size proportions for shown facets. One would have been motivated to make such a combination because it has been held that the optimization of proportions in a prior art device is a design consideration within the skill of the art. In re Reese, 290 F.2d 839, 129 USPQ 402 (CCPA 1961).

Allowable Subject Matter

Claims 4-5 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 4, the prior art of record fails to disclose or suggest each pavilion side having only two facets along each rib line. Any modification to the closest prior art of Octo-Square would require changing the shapes, types, and number of facets on the pavilion, which would destroy the function and intent of Octo-Square.

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As to claims 5 and 16, the prior art of record fails to disclose or suggest each pavilion corner has only two facets along each rib line. Any modification to the closest prior art of Octo-Square would require changing the shapes, types, and number of facets on the pavilion, which would destroy the function and intent of Octo-Square.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. USD250640 to Grossbard discloses a diamond.
2. USD251659 to Grossbard discloses a diamond.
3. USD337742 to D'Haene discloses a gemstone.
4. USD338851 to D'Haene discloses a gemstone.
5. USD402582 to Ambar discloses a gemstone.
6. USD422238 to Freilich discloses a gem cut.
7. US3796065 to Watermeyer discloses a stone with emerald cut crown and brilliant base.
8. US4020649 to Grossbard discloses a brilliantized step cut diamond.
9. US4118949 to Grossbard discloses a brilliantized step cut stone.
10. US4118950 to Grossbard discloses a brilliantized step cut stone with faceted crown.
11. US4555916 to Grossbard discloses a step-cut stone which has been brilliantized.
12. US5657646 to Rosenberg discloses a jewel having multiple culets.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Y Ho whose telephone number is (703)305-4556. The examiner can normally be reached on M-F 10:00AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J Swann can be reached on (703)306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TYH



ROBERT J. SANDY
PRIMARY EXAMINER